

Barrels, Inc. Superfund Site

Lansing, Michigan

Record of Decision



December 2020

Prepared by
U.S. Environmental Protection Agency
Region 5

TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS	iii
PART 1: DECLARATION	1
1.1 Site Name and Location	1
1.2 Statement of Basis and Purpose.....	1
1.3 Description of Selected Remedy.....	1
1.4 Statutory Determinations.....	1
1.5 Authorizing Signatures.....	2
PART 2: DECISION SUMMARY	3
2.1 Site Name, Location, and Description	3
2.2 Site History and Enforcement Activities.....	3
2.3 Community Participation	6
2.4 Scope and Role of Operable Unit or Response Action	6
2.5 Site Characteristics.....	7
2.6 Current and Potential Future Site and Resource Uses	10
2.7 Summary of Site Risks	10
2.8 Documentation of Significant Changes	12
PART 3: RESPONSIVENESS SUMMARY	13
3.1 Stakeholder Issues and Lead Agency Responses	13
3.2 Technical and Legal Issues.....	13
FIGURES	14
Figure 1: Site Location	15
Figure 2: Site Map - Current Parcel Ownership.....	16
Figure 3: Boundaries of Restricted Areas.....	17
Figure 4: Historic Locations of the Main Building, USTs, and Drainage Ditch	18
Figure 5: Areas Excavated During IRA.....	19
TABLES	20
Table 1: Target Cleanup Criteria for Soils Used During IRA	21
Table 2: Summary of 2002 Groundwater Analytical Results, Barrels, Inc. Site	22
Table 3: Summary of 2018 Groundwater Analytical Results, Former MWP Site.....	24
APPENDICES	25
Appendix A: AR Index.....	26
Appendix B: State of Michigan Concurrence Letter.....	29
Appendix C: Summary of May 2013 Post-IRA Site Soil Conditions Report.....	31

LIST OF ACRONYMS AND ABBREVIATIONS

AR	Administrative Record
ARARs	Applicable or Relevant and Appropriate Requirements
bgs	below ground surface
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COCs	Chemicals of Concern
COPCs	Chemicals of Potential Concern
CSXT	CSX Transportation
1,1-DCA	1,1-dichloroethane
1,2-DCA	1,2-dichloroethane
1,2-DCE	1,2-dichloroethene
DWP	drinking water protection
EGLE	Michigan Department of Environment, Great Lakes and Energy
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
GSI	groundwater-surface water interface
IRA	Interim Response Action
MCL	Maximum Contaminant Level
MDEQ	Michigan Department of Environmental Quality
MDNR	Michigan Department of Natural Resources
MOA	Memorandum of Agreement
MWP	Motor Wheel Plant
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NREPA	Michigan Natural Resources and Environmental Protection Act
NFA Report	No Further Action Report
PCBs	polychlorinated biphenyls
PCE	tetrachloroethene
ppm	part per million
PRPs	Potentially Responsible Parties
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
ROW	right-of-way
SARA	Superfund Amendments and Reauthorization Act
SVOCs	semi-volatile organic compounds
1,1,1-TCA	1,1,1-trichloroethane
1,1,2-TCA	1,1,2-trichloroethane
TCE	trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
USTs	underground storage tanks
VOCs	volatile organic compounds

PART 1: DECLARATION

1.1 Site Name and Location

Site Name: Barrels, Inc. Superfund Site

Site Location: 1404 North Larch Street, Lansing, Ingham County, Michigan

EPA Identification Number: MID017188673

1.2 Statement of Basis and Purpose

This decision document presents the selected remedy for the Barrels, Inc. Superfund Site in Lansing, Michigan, which was chosen in accordance with the Comprehensive Environmental, Response, Compensation, and Liability Act of 1980, (CERCLA, also commonly referred to as “Superfund”), 42 U.S.C. § 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300 et seq., as amended.

This decision is based on the Administrative Record (AR) file for this site, which has been developed in accordance with Section 113(k) of CERCLA, 42 U.S.C. § 9601 et seq. The AR Index, included as Appendix A, identifies each of the items comprising the AR upon which the selection of the remedial action is based. The AR for this Record of Decision (ROD) is available for review at the Downtown Lansing branch of the Capital Area District Libraries located at 401 South Capitol Avenue, Lansing, Michigan, and online at www.epa.gov/superfund/barrels.

The State of Michigan concurs with the Selected Remedy. The State’s concurrence letter is included in Appendix B.

1.3 Description of Selected Remedy

The Michigan Department of Environment, Great Lakes and Energy (EGLE), formerly the Michigan Department of Environmental Quality (MDEQ), is the lead agency for the remedial investigation (RI) and remedial action. The U.S. Environmental Protection Agency (EPA) is the lead agency for the final remedy decision. EPA, in consultation with EGLE, has determined that for the Barrels, Inc. Site, no further action is necessary to protect public health or welfare or the environment as long as future site uses are consistent with the implemented institutional controls. Long-term monitoring of institutional controls will be necessary to maintain protectiveness.

1.4 Statutory Determinations

The Selected Remedy attains the mandates of CERCLA Section 121 and, to the extent practicable, the NCP. Specifically, the remedy is protective of human health and the environment, complies with federal and state Applicable or Relevant and Appropriate Requirements (ARARs), and is cost-effective.

EPA has determined that no further remedial action is necessary for the Barrels, Inc. Site. Previous cleanup actions at the site have eliminated the need for a further remedial action. Contaminated soil was excavated, removed, and disposed of off-site to meet limited non-residential cleanup criteria under Part 201 of the Michigan Natural Resources and Environmental Protection Act (NREPA), 1994 Public Act 451, as amended, for all relevant pathways of potential exposure. Approximately 1,000 drums and nine underground storage tanks (USTs) were also removed from the site and transported to an approved off-site disposal facility.

Residual groundwater contamination above Part 201 criteria present beneath the site has been attributed by EPA and EGLE to an upgradient source and is being addressed under a response action associated with that source. Restrictive covenants (MDEQ Reference Nos. RC-SF-201-14-004, RC-SF-201-14-005, RC-SF-201-14-006, RC-SF-201-17-002, and RC-SF-201-17-003) were recorded to prevent potential exposures to residual contamination, limit land use to non-residential usage, and prohibit the use of groundwater underlying the site to help maintain protectiveness.

Because this remedy will result in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years of ROD signature to ensure that the remedy is, or will be, protective of human health and the environment.

1.5 Authorizing Signatures

12/8/2020

X 

Douglas Ballotti, Director
Superfund & Emergency Management Division
Signed by: DOUGLAS BALLOTTI

PART 2: DECISION SUMMARY

2.1 Site Name, Location, and Description

The Barrels, Inc. Superfund Site (EPA ID MID017188673), a 2.3-acre former drum reclamation facility located at 1404 North Larch Street, is in an industrial area in the northern section of Lansing, Michigan (Figure 1). All adjacent property land uses are industrial or commercial. The Ingham County Department of Environmental Health has indicated that there are no private wells located in the area, and that all water supplies are from deep municipal wells. The lead agency for the RI and remedial action is EGLE. EPA is the lead for the final remedy decision.

The site is comprised of a parcel owned by CSX Transportation (CSXT) (Parcel No. 33-01-01-09-281-011) and two former Michigan Land Bank parcels currently owned by Kaynick Properties LLC (Parcel Nos. 33-01-01-09-281-032 and 33-01-01-09-281-042). Historically, the southern portion of the site was used as a coal yard by the Cahill Coal Company, and the western portion of the site was used by Cutler Oil Company/Gulf Refining Company, presumably for the storage and distribution of petroleum products. The Site is bounded to the north and east by an active CSXT right-of-way (ROW) (Parcel No. 33-01-01-09-281-001), to the west by North Larch Street, and to the south by a commercial/industrial building owned by Kaynick Properties LLC (Parcel No. 33-01-01-09-281-053). Figure 2 shows the parcels that comprise the site.

The Motor Wheel Disposal Superfund Site (EPA ID MID980702989) is located approximately one mile northeast of the site, but it is not directly upgradient. The former Motor Wheel Plant (MWP) Site, a Resource Conservation and Recovery Act (RCRA) corrective action facility (MID005380134), is located immediately adjacent to and directly upgradient of the site at 1600 North Larch Street. A groundwater plume migrating south from the former MWP Site is the primary source of the volatile organic compounds (VOCs) in the groundwater beneath the Barrels, Inc. Site.

2.2 Site History and Enforcement Activities

The site operated as an industrial drum reclamation facility from 1961 until approximately 1980, when Barrels, Inc. ceased operations and abandoned the property. The drum reclamation process consisted of cleaning drums in a caustic solution, followed by rinsing, repairing, and repainting the drums for reuse. Surface soil was contaminated by spills and/or leakage that occurred at the loading dock and drum storage areas and from a storage tank that contained the caustic cleaning solution.

In 1986, the Michigan Department of Natural Resources (MDNR) removed all remaining drums (approximately 1,000 drums), 1,000 cubic yards of contaminated soil, and nine USTs from the site. All contaminated materials removed from the site were transported to an approved off-site disposal facility. MDNR conducted shallow soil sampling in 1987 and confirmed that soil was impacted with metals, VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and cyanide. EPA proposed the site for inclusion on the National Priorities List (NPL) on January 22, 1987 and finalized the site on the NPL on October 4, 1989.

From 1993 through 1997, EPA and MDEQ (formerly a part of MDNR) held discussions to allow NPL sites with a State-lead enforcement designation to follow the Remedial Action Plan process in Part 201 of NREPA, rather than the NCP ROD process. EPA and MDEQ signed a Memorandum of Agreement (MOA) memorializing this approach in 1997. During this negotiation period, the Barrels, Inc. Site was designated as a State-lead enforcement site.

On March 1, 1993, the State of Michigan entered into a Consent Decree (CD) in Ingham County Circuit Court under former Michigan Act 307 (now supplanted by Part 201) with the following 15 potentially responsible parties (PRPs): Americhem Corporation; Ashland Oil, Inc., and Ashland Chemical, Inc.; Anderson Development Company; CHEMCENTRAL Corp.; CIBA-GEIGY Corporation; CSXT; General Motors Corporation; Georgia-Pacific Corporation; Haviland Products; Metalworking Lubricants Company; Motor Wheel Corporation; Quaker Chemical Corporation; Roberts Consolidated Industries; Spartan Oil Corporation; and the Upjohn Company. The CD required the PRPs to conduct an RI and a Feasibility Study (FS) and to develop a Remedial Action Plan (RAP) for the site.

MDEQ approved the PRPs' Final RI Report in July 1995 and approved the PRPs' Final FS Report in January 1996. The State-approved Final FS Report identified the selected remedial alternative for the site, which included hot spot removal of PCBs, tank cleaning, covering the site with an asphalt cover, storm water controls, groundwater monitoring, and institutional controls to ensure that the use of the site remains industrial and that groundwater is not utilized. In April 1996, the PRPs submitted an initial draft RAP. Subsequently, several revisions were made to the draft RAP in response to comments from MDEQ.

During the period from 1996 to 2006, new groundwater data indicated that groundwater beneath the site was being impacted by an upgradient historical source, the former MWP Site. Specifically, the concentrations of 1,2-dichloroethane and vinyl chloride above the applicable Part 201 criteria found beneath the site were determined to be the result of migration of these contaminants from upgradient groundwater. As a result, MDEQ determined that the PRPs would not be responsible for monitoring or remediating the groundwater contamination migrating onto the site due to the fact that it would be addressed by the former MWP Site corrective action. In response, the PRPs submitted a revised version of the draft RAP in October 2006 that removed the groundwater management system as part of the remedy and reevaluated the remaining components of the remedy selected in the Final FS Report.

During this time, the PRPs also sought and received approval from EPA for the PCB portion of the cleanup to ensure compliance with federal Toxic Substances Control Act (TSCA) regulations at 40 CFR 761.61, as TSCA enforcement is not delegated to the State of Michigan. EPA reviewed and approved the PRPs' plans for addressing PCBs at the site. EPA granted conditional approvals in February 2001 and March 2005 for the proposed cleanup of PCB-impacted soil and debris, and EPA reaffirmed its conditional approval of the proposed work in December 2011.

Following the enactment of substantial amendments to Part 201, the PRPs, with the concurrence of the MDEQ, submitted an Interim Response Work Plan (IRWP) in 2010 designed to address the soil contamination at the site by requiring removal of all soils to concentrations that would not require capping for contaminant leaching (Part 201 Residential Drinking Water Protection

Criteria) and would allow for direct contact by industrial workers (Part 201 Non-Residential Direct Contact Criteria). These cleanup criteria are specified in Table 1 of this ROD. The PRPs began an Interim Response Action (IRA) in December 2011 that included additional sampling and removal of soil exceeding specified cleanup criteria; decontamination and demolition of tanks, sumps and unused structures; and removal and disposal of debris. The IRA was completed by the fall of 2012 with the removal of over 13,000 tons of contaminated soil.

In May 2013, the PRPs submitted a Post-IRA Site Soil Conditions Report, which described the pre-excavation soil sampling, the cleanup work, and the post-excavation sampling. The site was cleaned up to meet the limited non-residential cleanup criteria established in accordance with Part 201 of NREPA, Michigan Compiled Laws § 324.20120a(l)(d), except for two areas along the CSXT ROW where the excavations could not be extended any further toward the railroad tracks. To ensure future protectiveness, however, the owners of these parcels have executed restrictive covenants to limit use of their respective properties to non-residential land usage, prohibit the use of groundwater, and identify areas of residual contamination. Figure 3 shows the surveyed locations and boundaries of the executed restrictions.

The PRPs also submitted a technical report to EPA's TSCA program documenting the removal of PCB-impacted soils and waste. Due to residual PCBs levels in the CSXT ROW above the risk-based cleanup level of 16 parts per million, EPA required additional soil sampling in September 2014 to delineate the extent of PCB contamination prior to approving the cleanup. Because further remediation of the PCB contamination could not be completed in the CSXT ROW without compromising the integrity of the railroad tracks, EPA approved the deferral of further PCB cleanup by the PRPs until CSXT engages in track maintenance that allows for soil removal.

EPA also required a deed restriction to minimize the potential for PCB exposure in the interim and during any future excavation and cleanup work. As a result, certain areas within the parcels were restricted to low occupancy as defined in 40 CFR Part 761 due to the presence of PCBs in soil exceeding 1 part per million (ppm). As noted above, restrictive covenants (RC-SF-201-14-004, RC-SF-201-14-005, and RC-SF-201-14-006) were executed and recorded with Ingham County Register of Deeds in September 2015. EPA subsequently approved an application for risk-based PCB cleanup under 40 CFR 761.61(c) for the off-site CSXT parcel and a self-implementing closure report for the on-site parcels in October 2015.

Following receipt of EPA's approval of the PCB cleanup, the PRPs submitted a No Further Action Report (NFA Report) in December 2015. In response to MDEQ's comments, the PRPs submitted a Revised NFA Report in December 2016. In addition to providing detailed information about the cleanup, the Revised NFA Report provided an evaluation of the nature and extent of residual soil contamination, discussed the groundwater contamination present beneath the site attributed to an upgradient source, and evaluated the potential for vapor intrusion from both soil and groundwater. Additional restrictive covenants (RC-SF-201-17-002 and RC-SF-201-17-003) were recorded in September 2017 that included direct contact and vapor intrusion exposure restrictions for the on-site parcels. MDEQ approved the Revised NFA Report in October 2017.

2.3 Community Participation

EPA established an information repository at the Downtown Lansing branch of the Capital Area District Libraries, 401 South Capitol Avenue, Lansing, Michigan. EPA maintains a copy of the Administrative Record in the information repository and online at www.epa.gov/superfund/barrels. EPA issued a notice of the availability of the Proposed Plan and other site-related documents in the Lansing State Journal on July 30, 2020. The public comment period for the Proposed Plan ran from July 31 to August 30, 2020.

EPA has met the public participation requirements of Sections 113(k)(2)(B) and 117 of CERCLA, 42 U.S.C. 9613(k)(2)(B) and 9617, in the remedy selection process. This decision document presents the selected remedy for the site, chosen in accordance with CERCLA, as amended by SARA, and, to the extent practicable, the NCP. The decision for this site is based on the Administrative Record.

2.4 Scope and Role of Operable Unit or Response Action

This ROD presents EPA's final response action for the Barrels, Inc. Site. The site meets limited non-residential cleanup criteria under Part 201 of the Michigan NREPA, 1994 Public Act 451, as amended, which is an ARAR. The threat to soil and groundwater from site contamination was removed by excavating contaminated soil and backfilling with clean soil. Based upon the confirmation samples obtained after the soil removals, all soils exceeding appropriate cleanup criteria were excavated and properly disposed of with the limited exceptions mentioned in Section 2.2. The response activities taken to address PCBs and to satisfy requirements of TSCA under 40 CFR Part 761 were approved by EPA.

Recorded restrictive covenants prevent potential worker exposure to residual contamination, further limit land use to non-residential usage, and prohibit the use of groundwater underlying the site. Areas within these parcels where PCBs exceeded the 1 ppm cleanup criteria for high occupancy use have also been restricted to low occupancy use. In addition, the City of Lansing prohibits the installation of new wells and the use of existing water wells within a restricted area around the former MWP Site, which encompasses the entire 2.3-acre Barrels, Inc. Site, via the City's Groundwater Well Regulations (Part 12, Title 2, Chapter 1211 of the Code of Ordinances). Provisions of this ordinance serve as a supplemental institutional control mechanism to prevent exposure to contaminated groundwater.

The exceedances of Part 201 criteria for groundwater beneath the Barrels, Inc. Site have been attributed to the former MWP Site. EPA's RCRA corrective action program is currently evaluating a cleanup of the former MWP Site. The responsibility for the remaining monitoring wells on the Barrels, Inc. Site has been transferred to Demmer Properties, LLC to monitor the MWP plume. After approval of the Revised NFA Report, the monitoring wells not retained for monitoring the upgradient site were properly abandoned, as there was no need for any further remediation of groundwater related to contamination attributed to the Barrels, Inc. Site.

2.5 Site Characteristics

Conceptual Site Model

The primary historic sources of contamination at the site were residuals in the drums being recycled, storage tanks for fuel and caustic cleaning solution, and materials that were used as part of the recycling process, such as caustic cleaning solution, solvents, and paints. The primary release mechanisms included leakage from drums and storage tanks and spills that occurred during the recycling process. These releases infiltrated into and impacted soil. Prior to soil removal, the potential pathways that could lead to human exposure included:

- direct contact with soil (via ingestion or dermal contact);
- wind (via inhalation of dust/volatile emissions); and
- groundwater (via dermal contact, ingestion, or inhalation of volatilized contaminants).

Secondary release mechanisms that had the potential to impact the environment included leaching of contaminants from soil to groundwater and discharge of groundwater to surface water.

Previous reports documenting the extent of soil impacts included the Final RI Report and the subsequent reports documenting the investigation performed in 2011 prior to the IRA. These investigations confirmed that soil was impacted by various contaminants in different parts of the site, likely due to differences in the historic activities that resulted in the releases. Impacted soil was confined primarily to shallow fill and sediments overlying a clay layer present in the shallow subsurface across most of the site.

The investigations also concluded that the groundwater impacts under the site did not require active remediation by the PRPs for this site because the groundwater contamination was related to migration from an upgradient source, the former MWP Site. This conclusion was documented in the October 2006 Draft RAP as well as in the December 2016 Revised No Further Action Report. Residual groundwater contamination above Part 201 criteria beneath the Barrels, Inc. Site is being addressed under a response action associated with the former MWP Site.

Site Overview

The shallow regional geology of the area is dominated by sand and gravel deposits of glacial origin. Based on soil borings and well logs, the predominant stratigraphy at the site consists of interbedded clay, sand, and silt layers characteristic of stratified glacial outwash deposits. The shallow soil consists of surficial fill materials ranging in depth from 2 to 7.5 feet below ground surface (bgs) and up to 10 feet bgs on the southern part of the site. Shallow soil is underlain by a persistent shallow clay layer of variable thickness but generally several feet thick. The clay layer is underlain by an interbedded sequence of sands, silts, and clays to a depth of approximately 30 feet bgs.

At approximately 20 to 30 feet bgs, a sand and gravel aquifer is encountered that extends to approximately 54 feet bgs. Beneath this is a poorly sorted clay till that acts as an aquitard above

the sandstone bedrock, which is first encountered at approximately 62 feet bgs on the western side of the site. The on-site monitoring wells were screened at different depths, but almost all were screened within glacial aquifer zones located between approximately 30 to 50 feet bgs. A limited area was found in the western part of the site near North Larch Street where a discontinuous one- to two-foot layer of perched groundwater occurs. Two monitoring wells were installed in this perched zone, in which groundwater was encountered at approximately 12 to 13 feet bgs.

The closest surface water body to the site is the Grand River, which is approximately 0.33 miles west, and flows from south to north in the vicinity of the site. Groundwater flow in the glacial aquifer underlying the site is southward. Since groundwater flow is in the opposite direction, the Grand River does not appear to be hydraulically connected with the glacial aquifer. There are no private wells located in the area, and all drinking water supplies are from deep municipal wells. In addition, the City of Lansing has promulgated an ordinance prohibiting the installation and use of wells within a restricted area around the former MWP Site, which encompasses the entire 2.3-acre Barrels, Inc. Site.

Surface and Subsurface Features

During the period of facility operations, the Barrels, Inc. main building covered approximately 5,200 square feet at the property, consisting of an office area in the front, a loading and unloading dock in the center, and a drum restoration area at the rear. The drum cleaning process equipment included a caustic tank and flush tank, a 2,000-gallon free standing tank, an open box tank, a 1,500-gallon UST for spillage collection, and two 500-gallon sumps. The sumps were connected to a drainpipe that discharged to the sanitary sewer.

Drums destined for recycling were stored on the east side of the site. As described in Section 2.2, MDNR removed all remaining drums from the site in 1986, as well as nine USTs. Eight of the USTs were located to the south of the main building, and the ninth was located on the west side of the building. The property drains eastward into a drainage ditch along the CXST railway line. Figure 4 depicts the historic locations of the main building, USTs, and drainage ditch.

Sampling Strategy

Based upon all of the data gathered through 2011, the site was divided into 26 subareas for the IRA based upon the contaminants and concentrations present, as depicted in Figure 5. At the request of MDEQ, additional pre-excavation sampling was completed in 2011, including systematic random sampling of shallow soil to ensure that contact with the remaining soil would be acceptable after completion of the IRA and waste characterization to support disposal decisions. As a result, some of the planned excavation areas were expanded to remove additional soil, in-situ stabilization of lead in soil prior to removal was added, and other activities, such as tank decontamination and segregation of waste soil streams, were modified.

Most of the soil impacts at the site were in the upper 2 or 3 feet bgs. Initial excavations prior to the collection of confirmation samples were generally conducted to a depth of 2.5 feet bgs or less, with a few areas excavated to greater initial depths. Post-excavation confirmation soil

sampling was conducted in each of the areas to the initial target depth. Based on the results of confirmation samples collected from the base and sidewalls of the excavation, excavations were extended vertically and/or horizontally and resampled, as necessary, until confirmation samples demonstrated that the cleanup criteria for all Chemicals of Concern (COCs) were met. The only exceptions were in the CSTX ROW, where the horizontal limits were constrained to the east by active CSXT railroad tracks, and to the north and south by data points from the RI.

Sources of Contamination

In addition to removing soil exceeding Part 201 non-residential direct contact criteria and soil with the potential to leach contaminants to groundwater, the IRA also included activities to address source areas through the demolition and/or removal of dilapidated buildings, old equipment, and drummed investigation derived waste still present at the site. The tanks and sumps were cleaned, and the material above the floor slab in the main building was demolished and removed. The floor was removed and disposed of off-site, and soil beneath the floor in the building was sampled for VOCs, SVOCs, PCBs, metals, and cyanide. Based upon these samples, the areas needing excavation and the parameters of concern were identified. Excavations were continued until the remaining soil met cleanup criteria for all parameters analyzed.

Chemicals of Concern

Chemicals of Potential Concern (COPCs) detected in soil samples at concentrations above Part 201 generic cleanup criteria included: tetrachloroethene (PCE), trichloroethene (TCE), ethylbenzene, xylenes (total), acenaphthylene, benzo(a)pyrene, 2-chlorophenol, dibenz(a,h)anthracene, n-nitrosodiphenylamine, phenanthrene, PCBs, antimony, arsenic, barium, cadmium, chromium, copper, cyanide, mercury, nickel, and zinc. The COPCs to be analyzed in each area of the site were identified based upon exceedances in the previous soil analyses. Once additional data were collected in 2011, further evaluation was completed to refine the extent of the proposed excavation areas and determine the actual COCs for which soil removal was needed. The target cleanup criteria used for the IRA are presented in Table 1.

Location of Contamination

Post-excavation soil sampling was conducted in each of the areas following excavation to the proposed target depth. The sample analyses completed for each area were based on identified concentrations of specific COCs above the target cleanup criteria in the area, with the exception of the area below the main building where all COCs were analyzed, as requested by MDEQ. These data were compared to the target cleanup criteria to identify any exceedances for additional excavations.

Figure 5 illustrates the locations of all the areas excavated designated by letter(s) and color. The color represents the four soil disposal types: TSCA-regulated, TSCA-regulated and RCRA hazardous, RCRA hazardous, and non-hazardous. Appendix C describes the excavated areas in terms of the four soil disposal types and summarizes the IRA activities conducted in each area. All excavations were backfilled with imported clean fill, and the site surface was seeded with grass in the fall of 2012.

Soils identified to contain concentrations of COCs above target cleanup criteria were removed from the site, with the exception of a limited quantity of soils in two areas where no further excavation was possible due to the proximity to the rail line. The CSXT ROW areas where soils with COCs above target cleanup criteria were left in place and the COCs in those areas are as follows:

- Northern Boundary Area: antimony (Area C and Area O), PCBs (Area E), PCE (Area O)
- Southern Boundary Area: antimony (Area Q and Area U), mercury (Area U), TCE (Area U)

All soils that remain in the CSXT ROW that contain concentrations of COCs above target cleanup criteria are covered with imported clean fill or railroad ballast and are covered by institutional controls that require dermal protection for workers, include specific requirements for any future excavation and cleanup work, and provide for limited non-residential use.

2.6 Current and Potential Future Site and Resource Uses

The Barrels, Inc. Site is located in a mixed industrial and commercial area, as indicated on Figure 4. All adjacent property land uses are industrial or commercial and are expected to remain that way in the future. The site is ready for reuse. The remedy allows for limited non-residential use, and institutional controls in the form of restrictive covenants ensure that any future use of the site is consistent with this remedy. Any redevelopment of the site will also be subject to the City of Lansing's groundwater use ordinance and the use restrictions placed on the deed.

2.7 Summary of Site Risks

As detailed above, the bulk of soil that exceeded the target cleanup criteria was removed under the IRA, but there is some residual contamination present in two areas along the CSXT ROW where it was not feasible to excavate any further toward the railroad tracks. The risk discussion presented below includes an evaluation of appropriate cleanup criteria to demonstrate that the site has met the requirements for no further action.

Human Health Risk

For soil, the risk evaluation conducted using the soil sampling data and confirmation sampling results from the IRA determined that the soil at the site does not exceed EGLE's target cancer risk level of 1 in 100,000 and that the non-carcinogenic risk hazard quotient is less than one for the site. The target cleanup criteria used for the IRA are included in Table 1 and summarized in the following paragraph.

VOC- and SVOC-impacted soil was removed to site-specific residential drinking water protection (DWP) criteria, except for benzo(a)pyrene and dibenz(a,h)anthracene, which are not considered likely to leach or volatilize. These SVOCs were removed to the generic non-residential Part 201 direct contact criteria. Metals except for arsenic, chromium, and nickel were removed to the generic Part 201 residential DWP criteria. Arsenic, chromium, and nickel were

removed to site-specific background concentrations, which are below generic non-residential Part 201 direct contact criteria. PCBs were removed to a risk-based non-residential direct contact cleanup criterion of 16 ppm.

Due to the remaining low levels of PCE and TCE contamination present in soil at the site, the risk evaluation for soil considered the soil volatilization to indoor air (vapor intrusion) pathway. None of the samples taken from soil remaining at the site exceeded any of the Part 201 vapor intrusion criteria for VOCs. Therefore, the risk evaluation concluded that there is no vapor intrusion risk resulting from VOCs remaining in soil for any future buildings constructed on-site. As an additional protection, implemented restrictive covenants (RC-SF-201-17-002 and RC-SF-201-17-003) prohibit the construction of new structures unless such construction incorporates engineering controls to eliminate the potential for vapor intrusion at concentrations greater than applicable criteria or an evaluation of the potential for vapor intrusion is completed prior to construction of any structure.

Similarly, due to the remaining low levels of TCE, PCE, and heavy metals in soils at the site, the risk evaluation for soil also considered the soil to groundwater-surface water interface (GSI) pathway. None of the samples taken from soil remaining at the site exceeded GSI protection criteria for VOCs. The risk evaluation determined that the likelihood of metals leaching from shallow soil to groundwater is very low due to the high affinity of metals for soil and the more than 20 feet of strata between residual metals and groundwater. There are no surface water bodies on the site or in the immediate vicinity. Thus, the GSI pathway for soil was determined to be incomplete, resulting in no exposure to human receptors.

For groundwater, there are currently only limited areas of the site where groundwater is impacted. Chlorinated VOCs have been found in groundwater across the site extending from an upgradient location, across the railroad tracks, and toward the southern end of the site. Non-chlorinated VOCs were previously found in shallow, perched groundwater on the western side of the site where the former UST system was located. Groundwater samples were collected from monitoring wells associated with the Barrels, Inc. Site in 1998 and 2002. In 1998, impacts were seen both from chlorinated and non-chlorinated VOCs. In 2002, the groundwater impacts were comparable or lower than in 1998, and the non-chlorinated VOCs were all below detection limits in the on-site monitoring wells.

The presence of chlorinated VOCs in groundwater exceeding Part 201 criteria has been attributed to migration from the upgradient former MWP Site. Multiple lines of evidence support this decision: the pattern of shallower contamination being less than deeper contamination indicates that the impacts are migrating horizontally from off site (not vertically downward on site); the spatial location of impacts in groundwater is downgradient from higher concentrations of the same contaminants in groundwater beneath the upgradient property; and the chemical compounds present in groundwater are different from those found in the soil at the Barrels, Inc. Site. Specifically, the contaminants 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethene (1,2-DCE), 1,1,1-trichloroethane (1,1,1-TCA), and vinyl chloride are all significant components of the former MWP Site plume, yet none of these chemicals were identified as a COC in soil at Barrels, Inc.

During the most recent sampling event for the MWP Site in March 2018, vinyl chloride was the only COC detected at or above Part 201 residential drinking water criteria or EPA maximum contaminant levels (MCLs) in the four groundwater wells sampled at the Barrels, Inc. Site (MW-4-34, MW-7-48, MW-9-33, and MW-14-47). None of the values exceeded any of the non-residential vapor intrusion screening levels or any of the GSI criteria for VOCs. Table 2 compares the values detected in the last site-wide groundwater sampling event completed in 2002 at the Barrels Inc. Site to MDEQ's residential and non-residential vapor intrusion screening values, Part 201 generic groundwater cleanup criteria, and EPA MCLs. Table 3 summarizes the groundwater data for VOCs collected during the 2018 sampling event for the MWP Site.

Ecological Risk

The State-approved RI and FS Reports identified no ecological risks at the site.

2.8 Documentation of Significant Changes

The Proposed Plan for the Barrels, Inc. Site was issued and available for public comment from July 31 to August 30, 2020. The Proposed Plan identified No Further Action as the preferred alternative. EPA received no written comments during the public comment period. EPA determined that no significant changes to the remedy, as originally identified in the Proposed Plan, were necessary or appropriate.

PART 3: RESPONSIVENESS SUMMARY

3.1 Stakeholder Issues and Lead Agency Responses

EPA received no written comments during the public comment period.

3.2 Technical and Legal Issues

There are no technical or legal issues.

FIGURES

Figure 1: Site Location

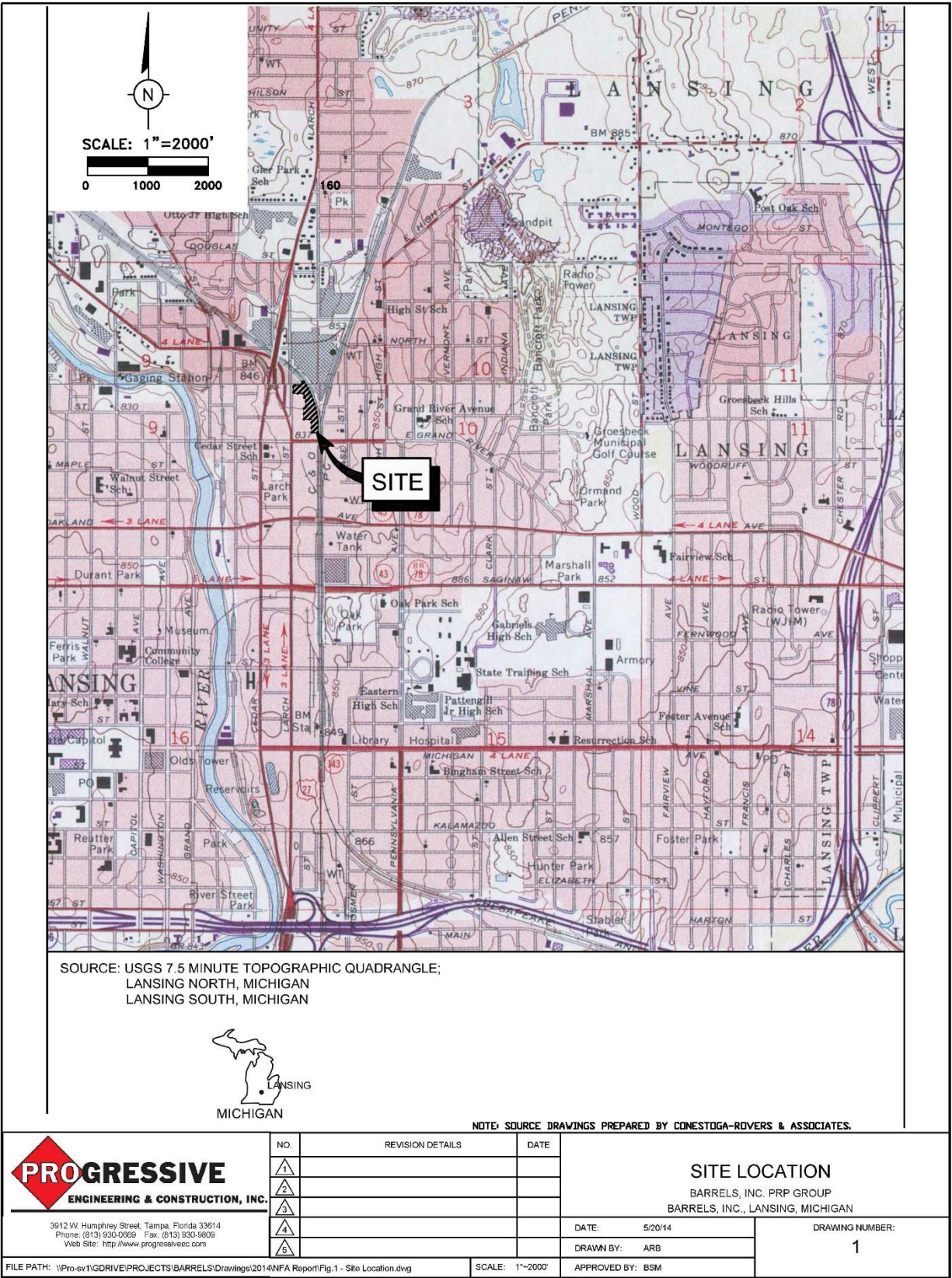


Figure 2: Site Map - Current Parcel Ownership

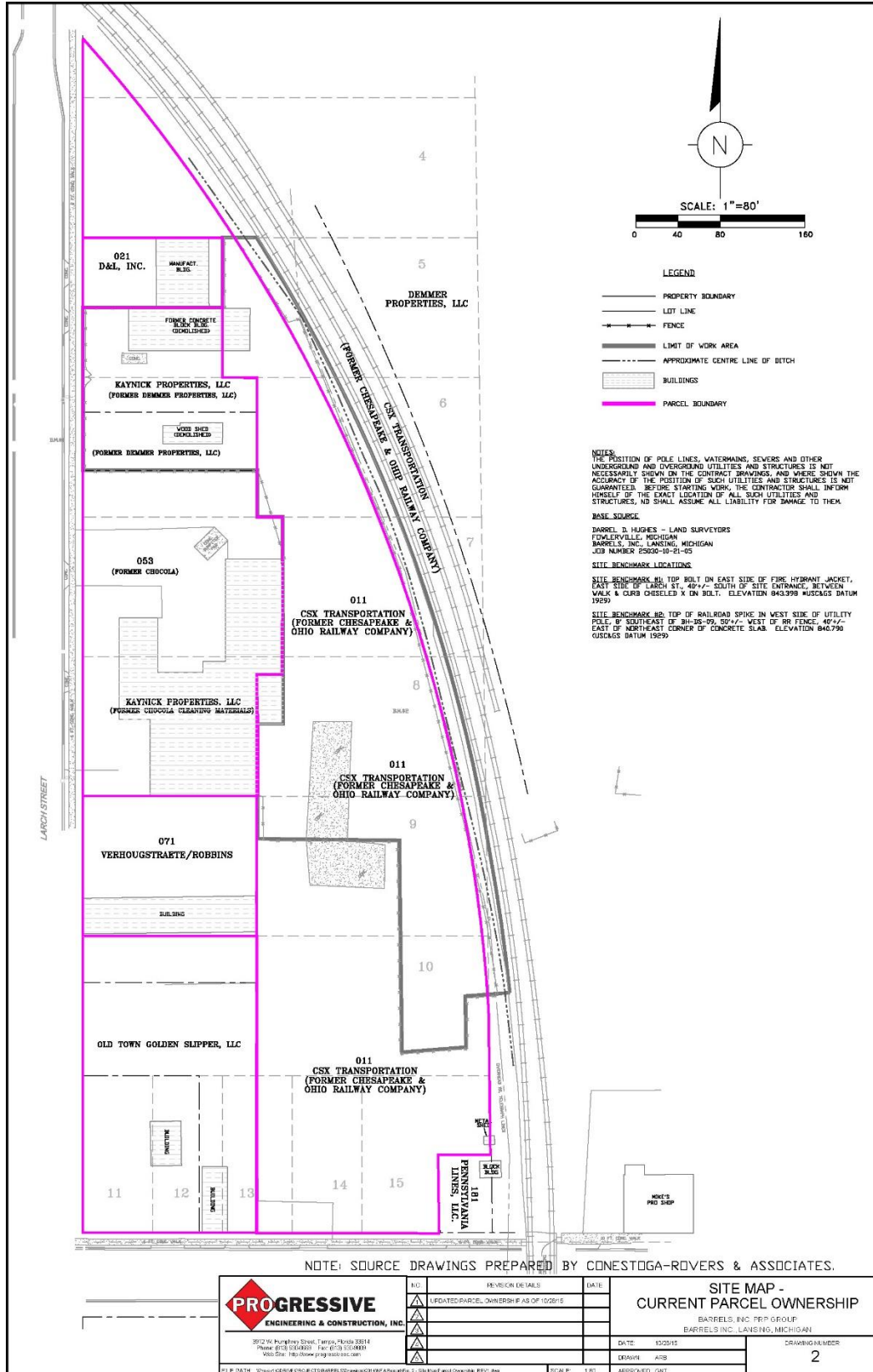


Figure 3: Boundaries of Restricted Areas

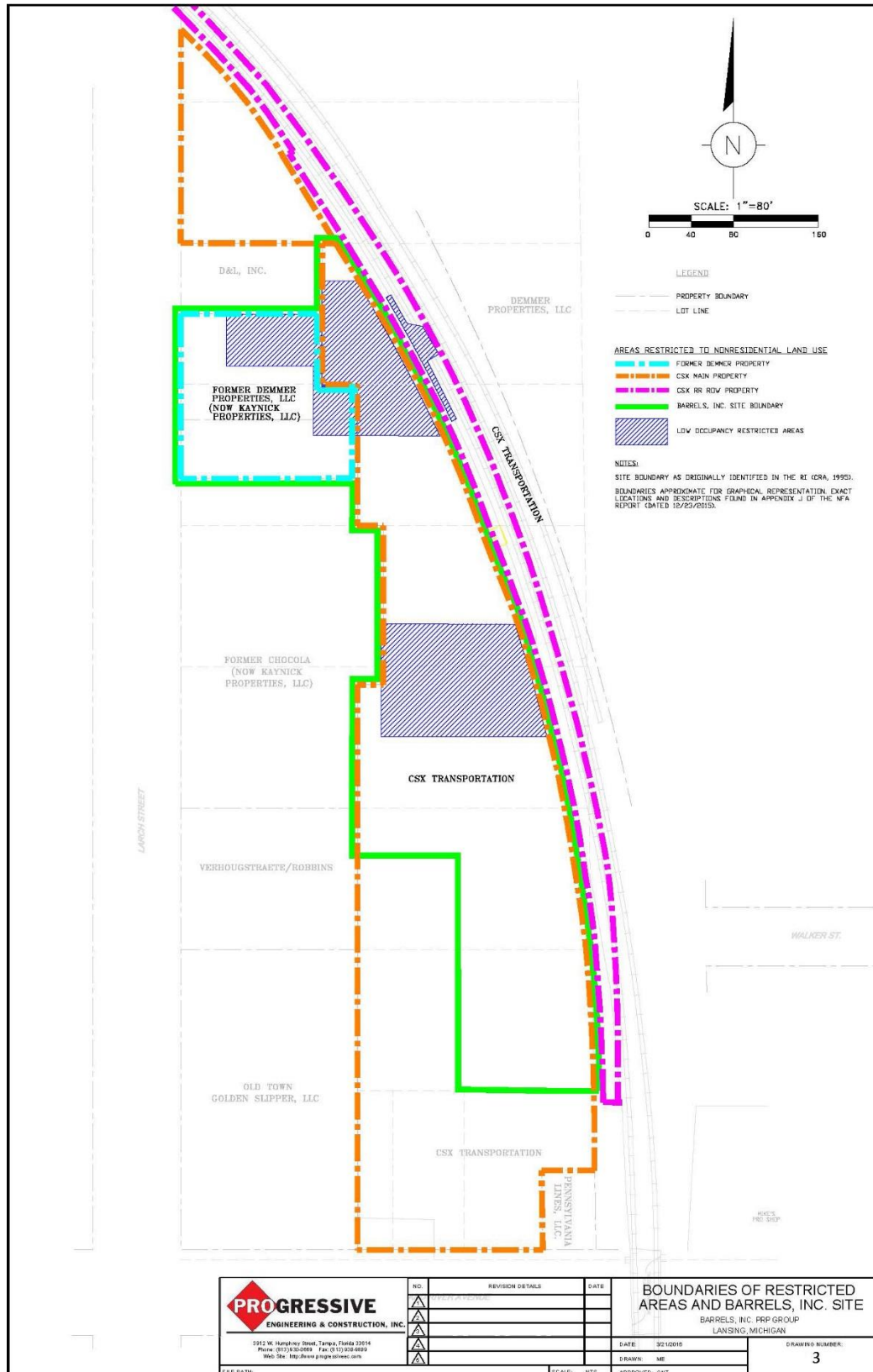
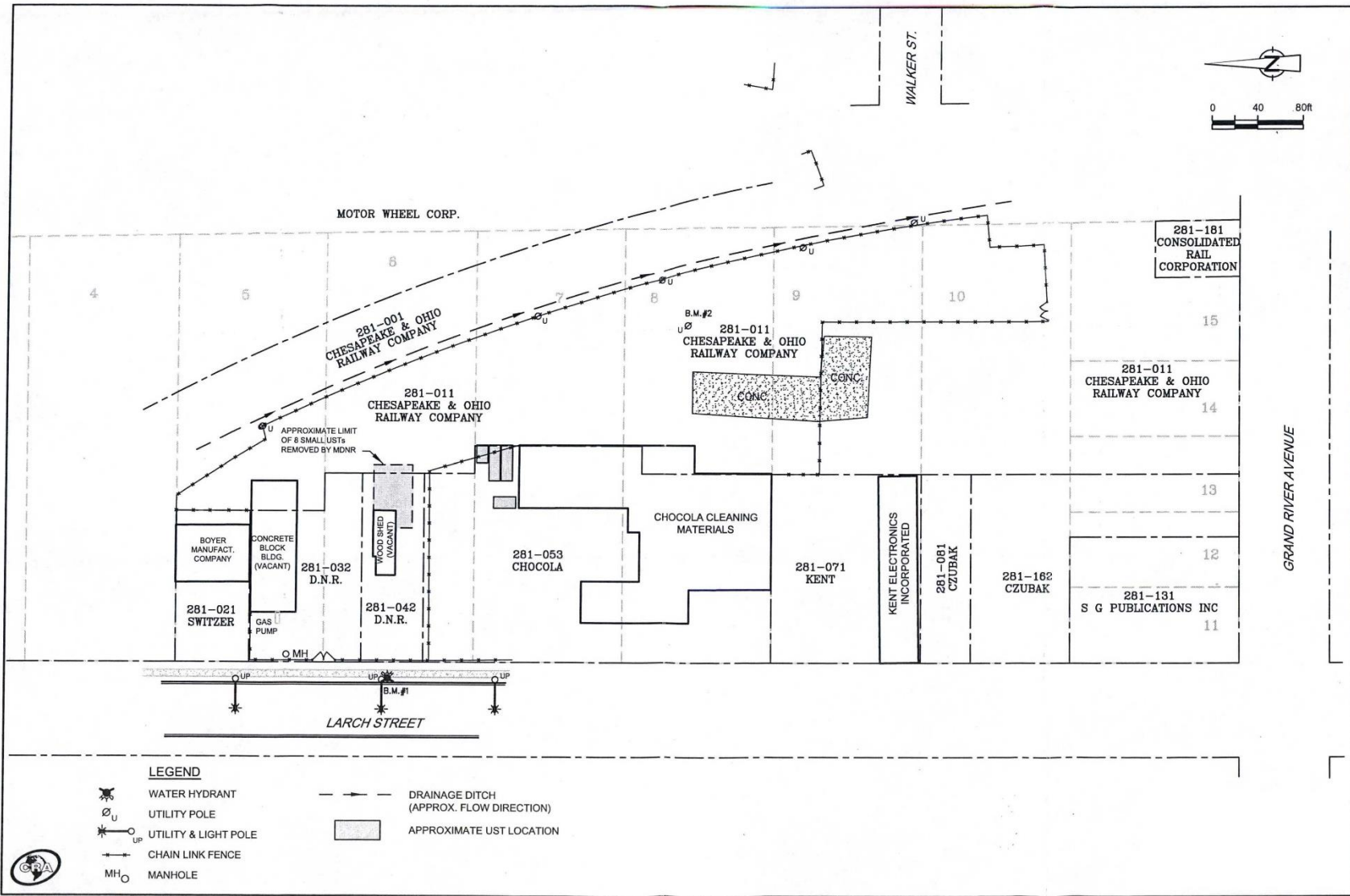
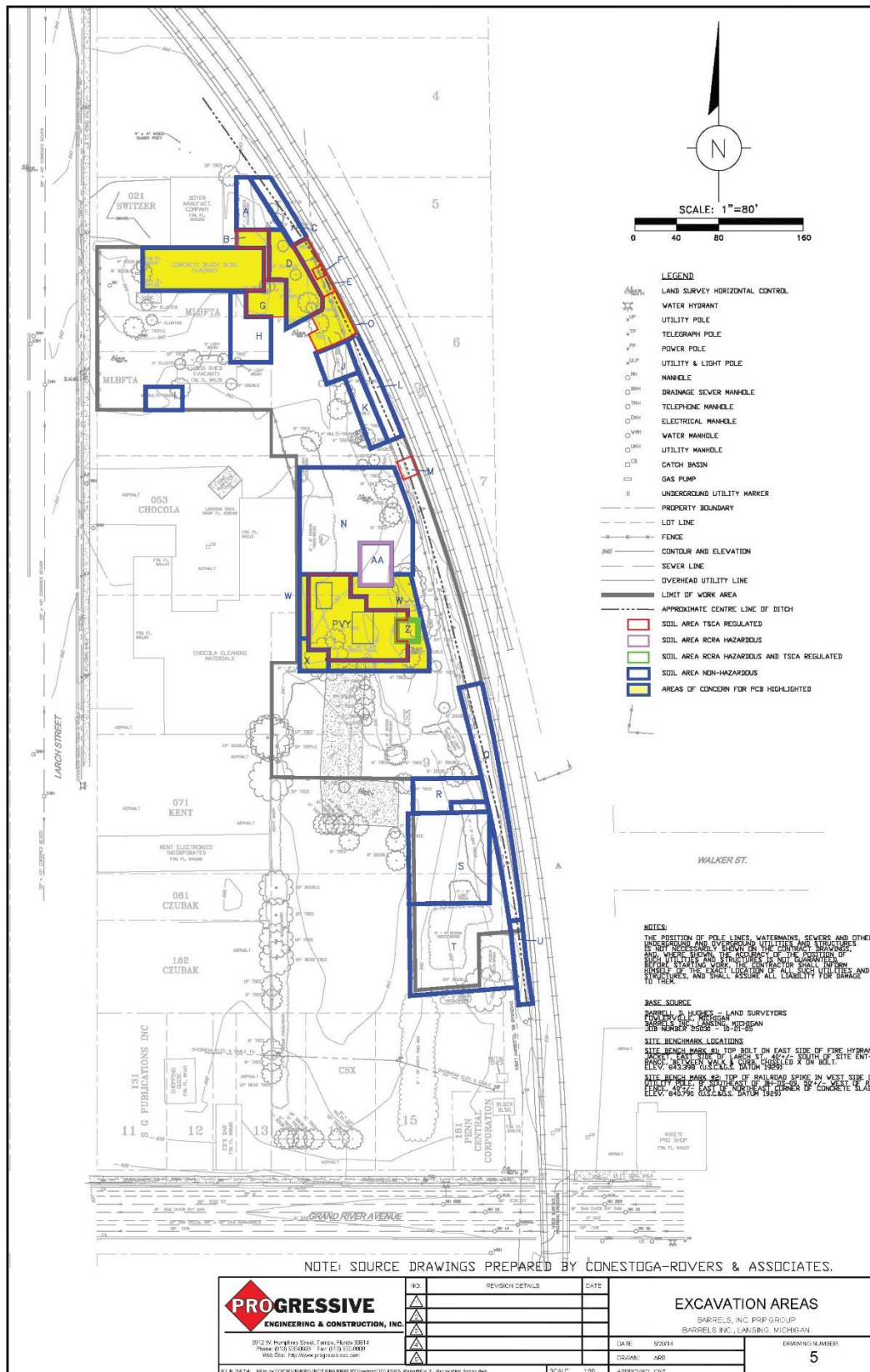


Figure 4: Historic Locations of the Main Building, USTs, and Drainage Ditch



04869-00(027)GN-WA006 SEP 02/2004

Figure 5: Areas Excavated During IRA



TABLES

Table 1: Target Cleanup Criteria for Soils Used During IRA

	Residential Drinking Water Protection Criteria	Non- Residential Direct Contact Criteria	Site Specific Background	Site-Specific Cleanup Level
<i>Volatile Organic Compounds</i>				
Benzene	0.1	840	NA	0.107
Ethylbenzene	1.5	71,000	NA	9.2
Tetrachloroethene	0.1	930	NA	0.272
Toluene	16	160,000	NA	49
Trichloroethene	0.1	660	NA	0.291
Xylenes (total)	5.6	1.E+06	NA	33
<i>Semi-volatile Organic Compounds</i>				
Acenaphthylene	5.9	5,200	NA	60
Benzo(a)pyrene	NLL	8	NA	NA
Dibenz(a,h)anthracene	NLL	8	NA	NA
Naphthalene	35	52,000	NA	350
N-Nitrosodiphenylamine	5.4	7,800	NA	35
Phenanthrene	56	5,200	NA	579
2-Chlorophenol	0.9	4,500	NA	5.9
<i>Polychlorinated Biphenyls</i>				
PCBs	NLL	(T)	NA	16
<i>Inorganics</i>				
Antimony	4.3	670	NA	NA
Arsenic	4.6	37	27.7	NA
Barium	1,300	1.30E+05	NA	NA
Cadmium	6	2,100	NA	NA
Chromium (total)	1.0E+06	1.00E+06	77.2	NA
Copper	5,800	7.30E+04	NA	NA
Lead	700	900	NA	NA
Mercury (total)	1.7	580	NA	NA
Nickel	100	1.50E+05	102	NA
Zinc	2,400	6.30E+05	NA	NA
Cyanide (total)	4	250	NA	NA
Notes Values in ppm, derived from Tables 2 and 3 - Soils (Residential and Non-Residential), Part 201 Generic Cleanup Criteria and Screening Levels/Part 213 Risk-Based Screening Levels (12/30/2013). NA - Not applicable. NLL - Not likely to leach. (T) - Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, Subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards.				
Values in yellow boxes are those used for the IRA as cleanup goals for each constituent.				

Table 2: Summary of 2002 Groundwater Analytical Results, Barrels, Inc. Site

Cleanup Criteria		Benzene	Chloro-ethane	1,2-DCA	1,1-DCA	1,2-DCE (total)*	1,1-DCE	Ethyl-benzene	Toluene	PCE	TCE	1,1,2-TCA	1,1,1-TCA	Vinyl Chloride	Xylenes (total)
Residential Part 201 Generic Drinking Water Criteria		5.0	430	5.0	880	70	7.0	74	790	5.0	5.0	5.0 (A)	200	2.0	280
Non-residential Part 201 Generic Drinking Water Criteria		5.0	1,700	5.0	2,500	70	7.0	74	790	5.0	5.0	5.0 (A)	200	2.0	280
Part 201 Generic Groundwater Surface Water Interface Criteria		200	1,100	360	740	620	130	18	270	60	200	32	89	13	41
Residential Part 201 Groundwater Volatilization to Indoor Air Inhalation Criteria		5,600	5.70E+06	9,600	1.00E+06	93,000	200	1.10E+05	5.30E+05	25,000	2,200	1.7E+05 (S)	6.60E+05	1,100	1.90E+05
Non-residential Part 201 Groundwater Volatilization to Indoor Air Inhalation Criteria		35,000	5.70E+06	59,000	2.30E+06	210,000	1,300	1.70E+05	5.30E+05	1.70E+05	4,900	1.7E+05 (S)	1.30E+06	13,000	1.90E+05
Residential Vapor Intrusion Groundwater Screening Levels (GW _{VI-res})		27	44,000	41	4,300	83	370	700	36,000	94	9.8	96	17,000	2.8	10,000
Non-residential Vapor Intrusion Groundwater Screening Levels (GW _{VI-nr})		140	180,000	210	18,000	350	1,600	2,600	150,000	460	41	480	71,000	52	10,000
EPA Maximum Contaminant Level (MCL)		5	NE	5	NE	70	7	700	1,000	5	5	5	200	2	10,000
Monitoring Well	Sample Date	Benzene	Chloro-ethane	1,2-DCA	1,1-DCA	1,2-DCE (total)*	1,1-DCE	Ethyl-benzene	Toluene	PCE	TCE	1,1,2-TCA	1,1,1-TCA	Vinyl Chloride	Xylenes (total)
Off-Site Wells - Upgradient/Cross-Gradient															
LN-MW-3 (former MWP Site)	5/8/2002	51	31	1.4	87	97	-	-	-	-	15	NA	23	120	-
LN-MW-3 (former MWP Site)	12/20/2002	80	28	2.0	91	91	1.0	-	1	1.0	13	NA	22	90	-
MW3-33	7/24/2002	ND(1)	ND(1)	ND(1)	3.8	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW3-46	7/26/2002	ND(1)	ND(1)	ND(1)	3.7	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW9-33	7/26/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW9-45	7/26/2002	ND(1)	ND(1)	ND(1)	7.3	5.2	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW10-34	7/29/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW10-51	7/26/2002	ND(1)	ND(1)	ND(1)	ND(1)	21	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
On-Site/Downgradient Wells															
MW1-47	7/26/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW2-36	7/24/2002	ND(1)	ND(1)	ND(1)	2.1	8.0	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	1.1	ND(3)
MW2-45	7/26/2002	ND(1)	ND(1)	ND(1)	1.9	27	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW4-34	7/25/2002	ND(1)	ND(1)	ND(1)	5.1	7.6	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	5.8	ND(3)
MW4-50	7/29/2002	ND(1)	ND(1)	ND(1)	1.3	16	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW5-34	7/29/2002	ND(1)	ND(1)	1.7	2.0	34	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	4.7	ND(3)
MW5-50	7/29/2002	ND(1)	ND(1)	8.4	ND(1)	5.7	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	2.0	ND(3)
MW6-32	7/29/2002	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(7.5)
MW7-33	7/29/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW7-48	7/29/2002	ND(1)	ND(1)	1.5	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW8-34	7/25/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW11-35	7/24/2002	ND(1)	ND(1)	ND(1)	ND(1)	11	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW11-54	7/26/2002	ND(1)	ND(1)	ND(1)	ND(1)	5.1	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW12-31	7/24/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW12-45	7/24/2002	ND(1)	ND(1)	2.9	1.6	31	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	4.6	ND(3)
MW13-20	7/24/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW13-33	7/26/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW13-49	7/26/2002	ND(1)	ND(1)	ND(1)	ND(1)	3.4	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW14-32	7/24/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)
MW14-47	7/24/2002	ND(1)	ND(1)	2.8	ND(1)	8.5	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(3)

Notes

All values reported in parts per billion.

GWVI-res = Residential Vapor Intrusion Groundwater Screening Values from Appendix D.1 - MDEQ Remediation and Redevelopment Division Guidance.

GWVI-nr = Nonresidential Vapor Intrusion Groundwater Screening Values from Appendix D.2 - MDEQ Remediation and Redevelopment Division Guidance.

All other Part 201 Generic Criteria from MDEQ Residential and Non-residential Groundwater Criteria, Table 1 (dated December 30, 2013).

* Sample values reported as total 1,2-DCE; Cleanup standard cited is for cis-1,2,-DCE except where otherwise indicated.

- Dash indicates that the compound was not detected in the sample, but detection limits not reported in historical summary table.

NA - Not Analyzed.

ND - Not Detected (Detection Limit).

NE - Not Established.

A - Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

S - Criterion defaults to the hazardous substance-specific water solubility limit.

Values in yellow boxes equal or exceed Part 201 Generic Residential/Non-residential Drinking Water Criteria and EPA Maximum Contaminant Level.

Table 3: Summary of 2018 Groundwater Analytical Results, Former MWP Site

Cleanup Criteria		Benzene	1,2-DCA	1,1-DCA	cis-1,2-DCE	trans-1,2-DCE	Ethyl-benzene	Toluene	PCE	TCE	1,1,2-TCA	1,1,1-TCA	Vinyl Chloride	Xylenes
Residential Part 201 Generic Drinking Water Criteria		5.0	5.0	880	70	100	74	790	5.0	5.0	5.0	200	2.0	280
Non-residential Part 201 Generic Drinking Water Criteria		5.0	5.0	2,500	70	100	74	790	5.0	5.0	5.0	200	2.0	280
Part 201 Generic Groundwater Surface Water Interface Criteria		200	360	740	620	1,500	18	270	60	200	330	89	13	41
Residential Part 201 Groundwater Volatilization to Indoor Air Inhalation Criteria		5,600	9,600	1.00E+06	93,000	85,000	1.10E+05	5.3E+05	25,000	2,200	17,000	6.60E+05	1,100	1.9E+05
Non-residential Part 201 Groundwater Volatilization to Indoor Air Inhalation Criteria		35,000	59,000	2.30E+06	2.10E+05	2.00E+05	1.7E+05	5.3E+05	1.70E+05	4,900	1.10E+05	1.3E+06	13,000	1.9E+05
EPA Maximum Contaminant Level (MCL)		5	5	NE	70	100	700	1,000	5	5	5	200	2	10,000
Monitoring Well	Sample Date	Benzene	1,2-DCA	1,1-DCA	cis-1,2-DCE	trans-1,2-DCE	Ethyl-benzene	Toluene	PCE	TCE	1,1,2-TCA	1,1,1-TCA	Vinyl Chloride	Xylenes
LN-MW-3	3/5/2018	5.0	<1	52	28	8.0	<1	<1	3.0	14	<1	3.0	6.0	<3
MW-4	3/6/2018	<1	<1	3.0	58	11	<1	<1	<1	143	<1	4.0	7.0	<3
MW-4D	3/6/2018	<1	<1	<1	2.0	1.0	<1	<1	<1	<1	<1	<1	2.0	<3
A4 (duplicate)		<1	<1	<1	41	10	<1	<1	<1	24	<1	<1	1.0	<3
MW-4-34 (Barrels, Inc. Site)	3/6/2018	<1	<1	2.0	2.0	<1	<1	<1	<1	<1	<1	<1	1.0	<3
MW-7-48 (Barrels, Inc. Site)	3/7/2018	<1	<1	<1	9.0	2.0	<1	<1	<1	<1	<1	<1	<1	<3
MW-9-33 (Barrels, Inc. Site)	3/6/2018	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
MW-14S	3/6/2018	<1	<1	<1	<1	<1	<1	<1	<1	14	<1	1.0	<1	<3
MW-14D	3/6/2018	<1	<1	<1	2.0	<1	<1	<1	<1	<1	<1	<1	<1	<3
MW-14-47 (Barrels, Inc. Site)	3/7/2018	<1	1.0	2.0	5.0	<1	<1	<1	<1	<1	<1	<1	2.0	<3
MW-20	3/5/2018	<1	<1	14	<1	<1	2.0	<1	<1	<1	<1	<1	<1	6.0
PSMW-B1	3/5/2018	<10	<10	40	800	130	<10	<10	<10	700	<10	<10	<10	<30
PSMW-C0	3/6/2018	<1	<1	1.0	10	11	<1	<1	<1	45	<1	1.0	93	<3
PSMW-C1	3/5/2018	<1	<1	1.0	4.0	2.0	<1	<1	<1	2.0	<1	<1	23	<3
PSMW-C2	3/5/2018	<5	<5	<5	238	107	<5	<5	<5	63	<5	<5	6.0	<15
PSMW-D1	3/6/2018	<1	<1	3.0	21	5.0	<1	<1	<1	159	<1	2.0	20	<3
PSMW-EO	3/6/2018	<1	<1	<1	16	6.0	<1	<1	<1	90	<1	5.0	9.0	<3
PSMW-E2	3/6/2018	<1	<1	<1	41	10	<1	<1	<1	24	<1	<1	1.0	<3
PSMW-E3	3/5/2018	<1	<1	1.0	20	4.0	<1	<1	<1	98	<1	<1	<1	<3
A3 (duplicate)		<1	<1	1.0	10	11	<1	<1	<1	45	<1	1.0	93	<3
MW-7	3/7/2018	<1	<1	5.0	1.0	<1	<1	<1	<1	<1	<1	<1	<1	<3
MW-17D	3/6/2018	<1	<1	5.0	2.0	<1	<1	<1	<1	<1	<1	<1	6.0	<3
MW-22S	3/5/2018	<1	<1	2.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
A5 (duplicate)		<1	<1	2.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
MW-22D	3/5/2018	<1	<1	8.0	2.0	<1	<1	<1	<1	<1	<1	<1	8.0	<3
MW-23D	3/5/2018	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
MW-24D	3/5/2018	<1	<1	4.0	<1	<1	<1	<1	<1	<1	<1	<1	2.0	<3
MW-25D	3/5/2018	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<3
Notes <MDL - Not detected at levels above the laboratory Method Detection Limit (MDL) or Minimum Quantitative Level (MQL). NE - Not Established.														
Values in yellow boxes equal or exceed Part 201 Generic Residential/Non-residential Drinking Water Criteria and EPA Maximum Contaminant Level.														

APPENDICES

Appendix A: AR Index

U.S. ENVIRONMENTAL PROTECTION AGENCY REMEDIAL ACTION

ADMINISTRATIVE RECORD FOR THE BARRELS, INC. SITE LANSING, INGHAM COUNTY, MICHIGAN

ORIGINAL
JULY 1, 2020
SEMS ID: 956286

<u>NO.</u>	<u>SEMS ID</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	463846	6/14/1984	Grabowski, B. MDNR	U. S. EPA	Preliminary Assessment Executive Summary Attached	5
2	463847	9/19/1984	Livingston, R. Ecology & Environment Inc.	U. S. EPA	Site Inspection Report	16
3	569159	3/1/1993	State of Michigan Circuit Court	General Public	Circuit Court for the County of Ingham Michigan Consent Decree <i>(This Document is Included for Informational Purposes Only)</i>	53
4	463851	4/1/1995	Conestoga Rovers & Associated, Ltd.	U. S. EPA	Final Remedial Investigation Report	724
5	463850	1/1/1996	Conestoga Rovers & Associated, Ltd.	U. S. EPA	Final Feasibility (FS) Report	118
6	569161	10/13/2006	Conestoga Rovers & Associated, Ltd.	U. S. EPA	Draft Remedial Action Plan <i>(This Document is Included for Informational Purposes Only)</i>	426
7	569162	5/24/2013	Conestoga Rovers & Associated, Ltd.	U. S. EPA	Post IRA Site Soil Conditions <i>(This Document is Included for Informational Purposes Only)</i>	173
8	943515	12//8/2016	Progressive Engineering & Construction, Inc.	U. S. EPA	Revised No Further Action Report	174

<u>NO.</u>	<u>SEMS ID</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
9	942698	10/17/2017	Eagle, D. MDEQ	Warner Norcross & Judd	Letter Re: Notice of Approval of No Further Action Report	2
10	942697	7/18/2018	DiCosmo, N., U.S. EPA	Kline, D. MDEQ	Letter Re: State's Approval of No Further Action Report	1
11	943596	9/25/2018	U. S. EPA	General Public	Superfund Preliminary Close Out Report (PCOR)	8
12	956284	7/1/2020	U. S. EPA	General Public	Proposed Plan , Barrels, Inc. Superfund Site, Lansing, Ingham County, MI	8
13	956285	7/1/2020	U. S. EPA	General Public	Fact Sheet - EPA Proposes No Further Action Clean-up Plan, Barrels, Inc. Superfund Site	5

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAL ACTION**

**ADMINISTRATIVE RECORD
FOR THE
BARRELS, INC. SITE
LANSING, INGHAM COUNTY, MICHIGAN**

**UPDATE 1
NOVEMBER 2020
SEMS ID:**

<u>NO.</u>	<u>SEMS ID</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	2003069	7/30/2020	U.S. EPA	General Public	E-Tearsheet - EPA Proposes No Further Action at Barrels, Inc. Superfund Site, Lansing, Michigan	1
2	2003149	10/1/2020	EGLE	U.S. EPA	Letter - re: Comments on the Draft Record of Decision	3
3	-	11/20/2020	EGLE	U.S. EPA	Letter - re: Concurrence with the Record of Decision for No Further Action	1
4	-	-	U.S. EPA	General Public	Record of Decision (ROD) - Signed (<i>Pending</i>)	-

Appendix B: State of Michigan Concurrence Letter



GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING



LIESL EICHLER CLARK
DIRECTOR

November 20, 2020

VIA E-MAIL AND U.S. MAIL

Mr. Douglas E. Ballotti, Director
Superfund Division
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (S-6J)
Chicago, Illinois 60604-3507

Dear Mr. Ballotti:

SUBJECT: Concurrence with the Record of Decision for No Further Remedial Action;
Barrels, Inc., Superfund Site; Lansing, Ingham County, Michigan

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) has received a copy of the Interim Record of Decision (ROD) for no further remedial action at the Barrels, Inc., Superfund Site in Lansing, Ingham County, Michigan. The United States Environmental Protection Agency (USEPA) has requested concurrence from the State of Michigan with the ROD for the site.

EGLE concurs with the remedy proposed by the USEPA in the ROD for no further action at the Barrels, Inc., Superfund Site.

If you have any questions regarding this matter, please contact Mr. Mike Neller, Director, Remediation and Redevelopment Division, at 517-512-5859 or EGLE, P.O. Box 30426, Lansing, Michigan 48909-7926; or you may contact me.

Sincerely,

Liesl Eichler Clark
Director
517-284-6700

cc: Ms. Lauren Bumba, USEPA, Region 5
Mr. Aaron B. Keatley, Chief Deputy Director, EGLE
Mr. Mike Neller, EGLE
Mr. David Kline, EGLE
Mr. Robert Franks, EGLE
Ms. Courtney Fung, EGLE

Appendix C: Summary of May 2013 Post-IRA Site Soil Conditions Report

TSCA-Regulated Soils (PCB Concentrations >50 ppm)

The areas where soil was excavated and transported off site to a TSCA-regulated facility include Areas B, E, F, G, H (partial), M, O, and PVY. Additionally, the soil in southeast corner of the main building below the floor slab was managed as TSCA-regulated waste.

Area B was excavated to an approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for PCBs. The concentrations of PCBs in the samples were below the Site Cleanup Goal, and no additional excavation was necessary.

Area E was excavated to an approximate depth of 2 feet below grade. The concentrations of PCBs in samples collected along the east sidewall of the initial excavation were greater than 50 ppm. The concentration of PCBs in a sample collected at the north end of the initial excavation exceeded the Site Cleanup Goal. Based on these data, Area E was expanded to the north approximately 15 feet and additional samples were collected and analyzed for PCBs. The concentration of PCBs in a sample collected along the east sidewall of the expanded excavation was 51 ppm. The concentration of PCBs in a sample collected along the east sidewall immediately north of this sample was below the Site Cleanup Goal. The concentration along the east sidewall remains because the CSXT railroad track prevented expansion of the excavation. The concentrations of PCBs in the remaining post-excavation samples were below the Site Cleanup Goal.

Area F is within Area E and was excavated to an approximate depth of 4 feet. Post-excavation samples were collected and analyzed for PCBs and lead. The concentrations of PCBs and lead in the samples were below the Site Cleanup Goals, and no additional excavation was necessary.

Area G was initially excavated to an approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for PCBs, selected metals, PCE, and TCE. The concentrations of PCBs in the samples were below 50 ppm and no additional excavation for TSCA soils was necessary. However, there were exceedances of the Site Cleanup Goals for PCBs, antimony, and PCE. Based on these exceedances, the area south of the building was excavated approximately 1 foot deeper and samples were collected from the base. A sample collected nearest the building had a concentration of PCE greater than the Site Cleanup Goal, and additional soils were excavated from this area until a sample analytical result for PCE was less than the Site Cleanup Goal. This resulted in an excavation depth of approximately 6 feet next to the building.

Area H was initially excavated to an approximate depth of 1 foot below grade. Post-excavation samples were collected and analyzed for PCBs and mercury. The concentrations of PCBs and mercury in the samples were below the Site Cleanup Goals except for one sample that contained PCBs greater than 50 ppm. The area surrounding this sample was sampled to determine the potential lateral extent of PCB concentrations greater than 50 ppm. The concentrations of PCBs in these samples were below the Site Cleanup Goal. Based on the one exceedance and additional sampling data, the soils surrounding the one exceedance were excavated approximately 1 foot

deeper and post-excavation samples were collected from the base. The analytical results indicated that PCB concentrations were below the Site Cleanup Goal.

Area M was excavated to an approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for PCBs. PCBs were not detected in the samples, and no additional excavation was necessary.

Area O was excavated to an approximate depth of 2.5 feet below grade. The concentrations of PCBs in samples collected along the west sidewall of the initial excavation were greater than 50 ppm. The concentration of PCBs in a sample collected along the east and south sidewalls exceeded the Site Cleanup Goal. Based on these data, Area O was expanded to the west approximately 10 feet and additional samples were collected and analyzed for PCBs. The west sidewall sample and one base sample from the expanded area contained PCBs greater than 50 ppm and therefore the excavation was further expanded to the west approximately 10 additional feet and approximately 2 feet deeper. Additional samples were collected, and PCBs were not detected in these samples. In addition to the post-excavation samples collected for analyses of PCBs, samples were collected for analyses of antimony and PCE. Exceedances of the Site Cleanup Goals for antimony and PCE were noted. Exceedances along the east sidewall were not excavated because of the presence of the railroad track. The other exceedances were excavated, and post-excavation samples confirmed removal of these exceedances.

Area PVY is a combination of the previous Areas P, V, and Y that were expanded towards each other to form one larger area containing concentrations of PCBs greater than 50 ppm. Area PVY was excavated to an approximate depth of 3 feet below grade. Post-excavation samples were collected and analyzed for PCBs and selected metals. The concentrations of PCBs and selected metals in the base samples were below the Site Cleanup Goals except for PCBs at three locations. One location was located in the northwest area of Area PVY. The other two locations were located in the central part of Area PVY. These two smaller areas were excavated an additional 1 to 2 feet until concentrations of PCBs in post-excavation samples were below the Site Cleanup Goal. The concentrations of PCBs in the sidewall samples exceeded the Site Cleanup Goal with the exception of three samples located to the north, west, and south. The concentrations of selected metals in sidewall samples exceeded the Site Cleanup Goals with the exception of one sample located on the northern part of the west sidewall. The sidewalls with exceedances were subsequently excavated with other adjacent areas, and post-excavation samples from those areas confirmed removal of soils with selected metals and/or PCBs greater than the Site Cleanup Goals.

The main building superstructure and elevated floor slab were removed during the IRA to expose the soils beneath the building. Prior to excavating soils, samples were collected and analyzed for the COPCs to characterize the soils. Based on these data, a small area in the southeast corner of the building was identified to contain concentrations of PCBs greater than 50 ppm at 1 to 2 feet below grade. This area was excavated to an approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for PCBs. PCBs concentrations were below the Site Cleanup Goal, and no additional excavation was necessary for TSCA-regulated material.

TSCA-Regulated (PCB Concentrations >50 ppm) and RCRA Characteristically Hazardous (Lead \geq 5 mg/L) Soils

Area Z was excavated to an approximate depth of 2.5 feet below grade, and soils were transported off site to a TSCA-regulated facility that is permitted to treat soils for lead. Post-excavation samples were collected and analyzed for PCBs and Toxicity Characteristic Leaching Procedure (TCLP) lead. The concentrations of PCBs and TCLP lead in the samples were below the Site Cleanup Goal and regulatory limit of 5 mg/L, respectively, and no additional excavation was necessary.

RCRA Characteristically Hazardous Soils (Lead \geq 5 mg/L)

Area AA was excavated to an approximate depth of 4 feet below grade, and soils were transported off site to a RCRA-regulated facility that is permitted to treat soils for lead. Post-excavation samples were collected and analyzed for TCLP lead. Base samples were also analyzed for selected metals and TCE consistent with the parameter list for the adjacent Area N. The concentrations of TCLP lead in the samples were below the regulatory limit of 5 mg/L, and the concentrations of all other parameters were below Site Cleanup Goals. No additional excavation was necessary.

Non-Hazardous Waste Soils

The areas where soil was excavated and transported off site to a non-hazardous facility include Areas A, C, D, H (see above), I, J, K, L, N, Q, R, S, T, U, W, and X.

Area A was excavated to an approximate depth of 1 foot below grade. Post-excavation samples were collected and analyzed for benzo(a)pyrene. The concentrations of benzo(a)pyrene in the samples were below the Site Cleanup Goal, and no additional excavation was necessary.

Area C was excavated to an approximate depth of 2.5 feet below grade. Post-excavation samples were collected and analyzed for antimony and PCBs. The concentrations of PCBs in the samples were below the Site Cleanup Goal. The concentrations of antimony in the samples were below the Site Cleanup Goal except along the east and north sidewalls. These concentrations remain because of the presence of the railroad track and the limit of work area, which prevented further expansion of the excavation.

Area D was excavated to an approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for antimony and PCBs. The concentrations of antimony and PCBs were below Site Cleanup Goals except for one base sample and two sidewall samples. Based on the exceedances, Area D was expanded horizontally approximately 10 feet south and vertically around the base sample to approximately 4 feet below grade, and post-excavation samples were collected. The concentrations of antimony and PCBs in these samples were below the Site Cleanup Goals, and no additional excavation was necessary.

Area I was excavated to an approximate depth of 1 foot below grade. Post-excavation samples were collected and analyzed for TCE. The concentrations of TCE in the samples were below the Site Cleanup Goal, and no additional excavation was necessary.

Area J was excavated to an approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for lead. The concentrations of lead in the samples were below the Site Cleanup Goal, and no additional excavation was necessary.

Area K was excavated to an approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for benzo(a)pyrene and PCE. The concentrations of benzo(a)pyrene and PCE in the samples were below the Site Cleanup Goals except at the base of the excavation where PCE exceedances were identified. Based on the exceedances, Area K was excavated approximately 1 foot deeper, and post-excavation samples were collected. The concentrations of PCE in these samples were below the Site Cleanup Goal, and no additional excavation was necessary.

Area L was excavated to an approximate depth of 2.5 feet below grade. Post-excavation samples were collected and analyzed for antimony. The concentrations of antimony in the samples were below the Site Cleanup Goal, and no additional excavation was necessary.

Area N was excavated to an approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for selected metals and TCE. The concentrations of selected metals and TCE were below Site Cleanup Goals except for two sidewall samples. Based on the exceedances, Area N was expanded horizontally approximately 10 feet north and 5 feet east, and post-excavation samples were collected. The concentrations of selected metals in the north sample were below the Site Cleanup Goals, and no additional excavation was necessary to the north. The concentrations of selected metals in the east sample were above the Site Cleanup Goals, and Area N was further expanded horizontally approximately 10 feet east, and a post-excavation sample was collected. The concentrations of selected metals in this east sample were below the Site Cleanup Goals, and no additional excavation was necessary to the east.

Area Q was excavated to an approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for benzo(a)pyrene, antimony, and mercury. The concentrations of benzo(a)pyrene in the samples were below the Site Cleanup Goal except at one base sample location. The concentrations of mercury in the samples were below the Site Cleanup Goal except at two base sample locations. The concentrations of antimony in the samples exceeded the Site Cleanup Goal except at one base and one sidewall sample location. Based on the exceedances, Area Q was excavated approximately 1 foot deeper, and post-excavation samples were collected. The concentrations of benzo(a)pyrene, antimony, and mercury in these samples were below the Site Cleanup Goals, and no additional vertical excavation was necessary. Concentrations of antimony above the Site Cleanup Goal remain to the east because of the presence of the CSXT railroad track that prevented expansion of the excavation.

Area R was excavated to an approximate depth of 1 foot below grade. Post-excavation samples were collected and analyzed for PCE. The concentrations of PCE in the samples were below the Site Cleanup Goal except at one base sample location in the southwest area. Based on the

exceedance, Area R was excavated approximately 1 foot deeper in the in the area of the exceedance, and post-excavation samples were collected. The concentrations of PCE in these samples were below the Site Cleanup Goal, and no additional excavation was necessary.

Area S was excavated to a proposed approximate depth of 2 feet below grade. Post-excavation samples were collected and analyzed for selected metals and TCE. The concentrations of TCE in the samples were below the Site Cleanup Goal. The concentrations of selected metals in the samples exceeded the Site Cleanup Goals except at one base and one sidewall sample location. Based on the exceedances, Area S was expanded horizontally approximately 5 feet west and vertically approximately 1 foot in the areas of the exceedances, and post-excavation samples were collected. The concentrations of selected metals in the west sidewall samples were below the Site Cleanup Goals, and no additional excavation was necessary to the west. The concentrations of antimony and lead in the base samples were above the Site Cleanup Goals, and Area S was further expanded vertically approximately 1 foot, and a post-excavation sample was collected. The concentrations of antimony and lead in these base samples were below the Site Cleanup Goal, and no additional vertical excavation was necessary.

Area T was excavated to approximate depths of 1 to 2 feet below grade. Post-excavation samples were collected and analyzed for selected metals and TCE. The concentrations of TCE in the samples were below the Site Cleanup Goal except at one base sample location adjacent to Area S. The concentrations of selected metals in the samples exceeded the Site Cleanup Goals at all sidewall samples and three base samples locations. Based on the exceedances, Area T was expanded horizontally approximately 5 feet west, south, and east towards Area U and vertically approximately 1 to 2 feet in the areas of the exceedances, and post-excavation samples were collected. The north sidewall exceedance was excavated with Area S. The concentrations of selected metals in the west and south sidewall samples were below the Site Cleanup Goals, and no additional excavation was necessary to the west and south. The concentrations of antimony and mercury in the east sidewall samples towards Area U exceeded the Site Cleanup Goals. The concentrations of antimony, mercury, and lead in the base samples exceeded the Site Cleanup Goals. Based on these additional exceedances. Area T was expanded horizontally approximately 10 feet east towards Area U and vertically approximately 1 to 2 feet in the areas of the exceedances, and post-excavation samples were collected. The concentrations of antimony and mercury in the east sidewall samples were below the Site Cleanup Goals, and no additional excavation was necessary to die east. The concentrations of antimony, mercury, and lead in these base samples were below the Site Cleanup Goals except for mercury at one location east of Area S. This mercury exceedance was subsequently excavated and the concentration of mercury in the post-excavation sample was below the Site Cleanup Goal, and no additional vertical excavation was necessary.

Area U was excavated to an approximate depth of 3 feet below grade. Post-excavation samples were collected and analyzed for antimony, mercury, and TCE. The concentrations of antimony, mercury, and TCE in the base samples were below the Site Cleanup Goals. The concentrations of TCE in the sidewall samples were below the Site Cleanup Goal except along the east sidewall. The concentrations of antimony and mercury in all sidewall samples exceeded the Site Cleanup Goals. Based on the exceedances, Area U was expanded horizontally west to match with the expanded Area T and approximately 20 feet south, and a post-excavation sidewall sample was

collected. The north sidewall exceedance was excavated with Area Q, and the presence of the CSXT railroad track prevented expansion of the excavation to the east. The concentrations of antimony and mercury in the sidewall sample exceeded the Site Cleanup Goals, and Area U was further expanded approximately 20 feet south to the approximate location of the furthest investigative sample location. The concentration of mercury in the sidewall sample marginally exceeded the Site Cleanup Goal, and further expansion of Area U to the south was suspended.

Area W consists of two parts, east and west of combined Area PVY. Area W was excavated to an approximate depth of 3 feet below grade, and post-excavation samples were collected and analyzed for selected metals and PCBs. The concentrations of selected metals and PCBs in the samples were below the Site Cleanup Goals, and no additional excavation was necessary. However, as noted above, there were exceedances for selected metals along the south sidewall of Area PVY, and therefore the central excavation was expanded south approximately 10 feet and post-excavation sidewall samples were collected. The concentrations of selected metals in these sidewall samples were below the Site Cleanup Goals, and no further horizontal excavation to the south was necessary.

Area X was excavated to an approximate depth of 3 feet below grade. Post-excavation samples were collected and analyzed for selected metals and PCBs. The concentrations of selected metals and PCBs in the base samples were below the Site Cleanup Goals. The concentrations of selected metals and PCBs in the sidewall samples were below the Site Cleanup Goals except along the west sidewall for chromium. The soil along the west side was removed to an existing building, and no soil remained to collect a post-excavation sidewall sample. As noted above, Area X was expanded approximately 10 feet south to address exceedances for metals in Area PVY.

The soils below the main building were characterized prior to excavating soils as noted above. Based on these data, concentrations of antimony, cadmium, chromium, lead, mercury, PCE, and PCBs exceeded the Site Cleanup Goals. Following removal of the TSCA-regulated material, soils were excavated to a depth of approximately 2 feet in the area of exceedances (approximate eastern two-thirds of the building). Post-excavation samples were collected, and the samples were analyzed for all parameters exceeding the Site Cleanup Goals. The concentrations of cadmium, chromium, lead, and mercury in the samples were below the Site Cleanup Goals. Exceedances for antimony, PCE, and PCBs remained. Based on the exceedances, approximately 2 feet of soil was removed, post-excavation samples were collected, and the samples were analyzed for antimony, PCE, and PCBs. The concentrations of PCBs in the samples were below the Site Cleanup Goals. Exceedances for antimony and PCE remained in the eastern third of the building. Based on the exceedances, approximately 2 feet of soil was removed in the area of exceedances, post-excavation samples were collected, and the samples were analyzed for antimony and PCE. The concentrations of antimony in the samples were below the Site Cleanup Goals. Exceedances for PCE remained in the southeastern corner of the building. Additional soils were excavated from this area until a sample analytical result for PCE was less than the Site Cleanup Goal. This resulted in an excavation depth of approximately 10 feet.